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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,155	12/20/2001	Richard Shann	858063.454	3573

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SEED INTELLECTUAL PROPERTY LAW GROUP PLLC
701 FIFTH AVE
SUITE 6300
SEATTLE, WA 98104-7092

EXAMINER	
NAHAR, QAMRUN	

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/032,155	SHANN, RICHARD	
	Examiner	Art Unit	
	Qamrun Nahar	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed on 02/03/2005.

2. The objections to claims 1, 8, 9, 13, 14, 15, 16, 17, 18, 19 and 20 are withdrawn in view of applicant's amendment.

3. The rejection under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention to claims 1-20 is withdrawn in view of applicant's amendment.

4. Claims 1, 8-9, 11, 13-20 have been amended.

5. Claims 1-20 are pending.

6. The objection to the oath/declaration is pending (See the last Office Action, Mailed on 11/03/2004, par. 3).

7. Claims 1-20 stand finally rejected under 35 U.S.C. 102(e) as being anticipated by Eidt (U.S. 6,219,830).

Response to Amendment

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Eidt (U.S. 6,219,830).

Per Claim 1 (Amended):

The Eidt patent discloses:

- a method of linking a plurality of object code modules to form an executable program, each object code module having section data, a set of relocation instructions, and one or more symbols, each symbol having a plurality of attributes associated therewith, wherein said relocation instructions include a data retrieval instruction having a symbol field identifying a symbol and an attribute field identifying a symbol attribute associated with said identified symbol to be retrieved ("The invention takes advantage of certain characteristics of executable object code files to drastically reduce the number of bytes of relocation information which are required per relocation. In particular, roughly described, relocation table entries in an executable object code file is interpreted as relocation instructions rather than individual specifications for a particular respective relocatable information item. An abstract machine is provided for interpreting the relocation instructions and performing various relocation operations and various control functions for the abstract machine, in response to the relocation instructions. The abstract machine maintains certain variables containing information which is referenced and updated in response to certain types of the relocation instructions, thereby obviating the need to include such information as part of each relocation instruction." in

column 4, lines 53-67; column 10, lines 20-29; column 10, lines 53-67 to column 11, lines 1-8; and see Figure 2)

- reading at least one relocation instruction from said set of relocation instructions and where said relocation instruction is a data retrieval instruction, determining the symbol identified by the symbol field and retrieving one of said plurality of symbol attributes associated with said symbol in dependence on contents of the symbol attributes field of said instruction (column 12, lines 12-67 to column 13, lines 1-24; column 13, lines 35-67 to column 14, lines 1-8; and see Figure 5).

Per Claim 2:

The Eidt patent discloses:

- wherein said retrieved symbol attribute is placed in a store for subsequent use by a further relocation instruction (column 10, lines 20-29).

Per Claim 3:

The Eidt patent discloses:

- wherein said store is a stack (column 10, lines 20-29).

Per Claim 4:

The Eidt patent discloses:

- wherein said method further comprises recording a pass value indicative of the number of times said set of relocation instructions from said plurality of object code modules have been read (column 10, lines 43-51).

Per Claim 5:

The Eidt patent discloses:

- wherein said plurality of symbol attributes includes the value of the symbol (column 10, lines 20-29).

Per Claim 6:

The Eidt patent discloses:

- wherein said plurality of symbol attributes includes the name of the symbol itself (column 10, lines 66-67 to column 11, lines 1-3).

Per Claim 7:

The Eidt patent discloses:

- wherein said plurality of symbol attributes includes a ranking determinator, said ranking determinator defining which one of a plurality of definitions of said symbol is selected when forming said executable program (column 10, lines 53-67 to column 11, lines 1-8).

Per Claim 8 (Amended):

The Eidt patent discloses:

- wherein said plurality of symbol attributes includes said pass value indicative of the most recent repetition of said set of relocation instructions during which the value of said symbol has been retrieved (column 10, lines 66-67 to column 11, lines 1-3).

Per Claim 9 (Amended):

The Eidt patent discloses:

- wherein said method further comprises determining if the pass value indicative of the most recent repetition is equal to or only one less than said recorded pass value and in response to said determination placing a predetermined value in said store (column 10, lines 53-67 to column 11, lines 1-8).

Per Claim 10:

The Eidt patent discloses:

- further comprising reading said predetermined value placed in said store and deleting the section data labeled by said symbol in response to the value of said predetermined value (column 11, lines 66-67 to column 12, lines 1-5).

Per Claim 11 (Amended):

This is another version of the claimed method discussed above (claims 1, 4, 5 and 9), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Per Claim 12:

The Eidt patent discloses:

- when said symbol attribute field of said data retrieval instruction identifies said symbol value, storing said pass value in a further one of said symbol attributes (column 10, lines 20-29 and lines 43-51).

Per Claim 13 (Amended):

This is a computer program product version of the claimed method discussed above, claim 1, wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Per Claim 14 (Amended):

This is a computer program product version of the claimed method discussed above (claims 1 and 2), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Per Claim 15 (Amended):

This is a computer program product version of the claimed method discussed above (claims 1 and 3), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Per Claim 16 (Amended):

This is a computer program product version of the claimed method discussed above (claims 1, 3 and 4), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Per Claim 17 (Amended):

This is a computer program product version of the claimed method discussed above (claims 1, 3 and 7), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Per Claim 18 (Amended):

This is a computer program product version of the claimed method discussed above (claims 1, 3, 4 and 7-10), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Per Claim 19 (Amended):

This is a computer program product version of the claimed method discussed above (claims 1, 4, 5 and 9), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Per Claim 20 (Amended):

This is a computer program product version of the claimed method discussed above (claims 1, 4, 5 and 9), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Eidt.

Response to Arguments

10. Applicant's arguments filed on 02/03/2005 have been fully considered but they are not persuasive.

In the remarks, the applicant argues that:

a) The present invention provides a method for linking a plurality of object code modules to form an executable program, and a resulting computer product is also provided. The present invention utilizes novel relocation instructions during the linking process that avoids the same calculation being passed to a linker many times over. More particularly, in the present method

and resulting computer product, symbol attributes are used to rewrite the code during the linking process.

Eidt et al. describe at column 1, lines 24-36, the steps in passing from a computer program written in source code to execution of the program on a computer system to be as follows:

(1) one or more source code modules are passed through a compiler or assembler that generates one or more object code files as an output;

(2) a linker routine, which is either a separate program or is part of the compiler, combines the source code modules into a single output file, known as an "executable" object code file; and

(3) one or more executables are then loaded together into memory by a loader program, and control is then transferred to a start address to initiate program execution.

As discussed above, the present invention relates to the linker routine in step 2, while the relocatable object code format and method for loading same into the computer system provided by Eidt et al. relates to the linker program of step 3. This is clear from the summary of the invention section of Eidt et al. at column 4, lines 54-67, which specifies that the invention takes advantage of certain characteristics of executable object code files to drastically reduce the number of bytes of relocation information that are required per relocation. In order to obtain the desired result, Eidt et al. disclose a loader program as described at column 9, line 34 through column 19, line 33, which may be applied to a re-locatable object code file format produced by a compiler prior to linking (step 1) at column 19, lines 26-33.

Independent claims 1, 11, and 13-20 have all been amended to clearly recite a method for a computer program product for linking a plurality of the object code modules to form an executable program. Nowhere in Eidt et al. is there any disclosure or suggestion that relates to forming an executable program using a linker, and in particular to use of symbol attributes when forming an executable program. Rather, Eidt et al. only disclose performing relocations before or after the linking process. As such, the present invention is clearly novel and nonobvious over the teachings of Eidt et al.

Applicant further notes that the Eidt et al. reference was cited in the European standard search report as being in category A, i.e., of only technological background to the presently claimed invention. Thus, it is clear that Eidt et al. do not relate to the optimization of the linking process and in fact provide no detailed description of the linking process and how it might be achieved as set forth in claims 1-20.

Examiner's response:

a) Examiner strongly disagrees with applicant's assertion that Eidt fails to disclose the claimed limitations recited in claims 1-20. Eidt clearly shows each and every limitation in claims 1-20.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., during the linking process) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In addition, see the rejection above in paragraph 9 for rejection to claims 1-20.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication from the examiner should be directed to Qamrun Nahar whose telephone number is (571) 272-3730. The examiner can normally be reached on Mondays through Fridays from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached on (571) 272-3695. The fax phone number for the organization where this application or processing is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TUAN DAM
SUPERVISORY PATENT EXAMINER

QN
June 6, 2005